



1650 CALVERT CLIFFS PARKWAY • LUSBY, MARYLAND 20657-4702

GEORGE C. CREEL
VICE PRESIDENT
NUCLEAR ENERGY
(410) 260-4455

June 11, 1992

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Correspondence with the State of Maryland Regarding the Calvert Cliffs
Nuclear Power Plant NPDES Permit

Gentlemen:

In accordance with Specification 3.2 of Appendix B, "Environmental Protection Plan (Non-Radiological) Technical Specifications," attached is a copy of correspondence from Baltimore Gas and Electric Company to the Maryland Department of the Environment regarding testing to be performed under authority of our National Pollution Discharge Elimination System (NPDES) permit.

Should you have any questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

GCC/BDM/bdm/dlm

Attachment

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
D. G. McDonald, Jr., NRC
T. T. Martin, NRC
P. R. Wilson, NRC
R. I. McLean, DNR
J. H. Walter, PSC

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Add: NRC/DET/ESG-B

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1000 BRANDON SHORES ROAD • BALTIMORE, MARYLAND 21226
(410) 787-5000

FOSSIL ENGINEERING DEPARTMENT

May 26, 1992

Mr. Melvin Knott
Maryland Department of the Environment
Point Breeze Business Park
2500 Broening Highway
Baltimore, Maryland 21224

Subject: Calvert Cliffs Nuclear Power Plant
(State Discharge Permit No. 86-DP-0187)
Request for Permission to Perform Tests with Clamtrol (CT-1)

Dear Mr. Knott:

In August, 1991, representatives from Betz (manufacturers of Clamtrol CT-1) and I met with you and Ed Gertler about a test we would like to perform at Calvert Cliffs using Clamtrol CT-1. In that meeting we discussed the proposed test and provided information (including toxicity information) on this product. At this meeting, MDE representatives indicated that the proposed test would be acceptable. However, we agreed to make a formal request and receive written concurrence from the State.

Since Calvert Cliffs was in the NPDES renewal process, we initially decided to wait for approval via the new permit. A request to do Clamtrol tests was provided with the NPDES renewal application. However, since the permit has not been reissued as yet, we would like to request at this time your written concurrence to allow us to perform this test. The letter would require Mr. Richard Collins' (Director of Hazardous and Solid Waste Management Administration) signature in order for us to proceed.

Plant personnel wish to begin this test in June. We have drafted a proposed approval letter to help expedite the process. Also enclosed is an updated proposal for the study. The only changes to the original proposed study are the duration (we would like to perform the study over a greater portion of the fouling season, a 4-5 month duration per unit) and we will likely only treat one of the two trains per unit, leaving the other train as a control.

Again, detailed information on this product was previously provided to your office. We have included with this letter information on Foam-trol, in case this is needed to prevent foaming in the discharge. If you have any further questions or if the concurrence process will take much longer than a few weeks (since we would like to start testing in mid June), please give me a call (410)787-5114.

Sincerely,

Melissa J. Wieland
Environmental Scientist
Environmental Programs Section

MJW:sg

cc: E. I. Bauereis J. D. Warner
 T. G. Ringger C. A. Lamont
 B. M. Tilden

bcc: B. S. Montgomery

Attachment

(05/22/92)

CALVERT CLIFFS NUCLEAR POWER PLANT
STATE DISCHARGE PERMIT NO. 86-DP-0187
- PROPOSED CLAMTROL CT-1 TEST -

The proposed study is to test the effectiveness of Clamtrol CT-1 in controlling microfouling in the Saltwater System of Calvert Cliffs Nuclear Power Plant (CCNPP). The Saltwater System consists of two trains per unit (4 trains total). Each train has a flow of 20,000 gpm. Each train serves a component cooling water and service water heat exchanger. The Saltwater System discharges/mixes into the Circulating Water System which has a flow of 1,200,000 gpm per unit.

The study period is expected to last between 4-5 months per unit. (Each unit will begin testing on a different schedule; therefore, testing may actually be longer than 4-5 months for the entire study.) Clamtrol CT-1 will be injected into one train per unit (the other train serving as a control) once per week for approximately one hour. The concentration of the treated train will be between 30-60 ppm (most likely at 30 ppm since we intend to start with a clean system). Clamtrol CT-1 naturally adsorbs and detoxifies on suspended substances in the water (i.e. the water exerts a "demand" for the active product). Therefore, with dilution from the untreated train of the Saltwater System and the Circulating Water System plus the natural demand of the water, levels of Clamtrol CT-1 at the NPDES 001 outfall are expected to be well below the detection limit of 0.2 ppm.

Clamtrol CT-1 under certain circumstances has a tendency to foam. Because of the very low concentrations and the submerged discharge, it is believed that foaming will not occur in the Calvert Cliffs discharge. However, if foaming occurs during initial testing and a water spray system isn't feasible to control foaming, we may want to try using a defoaming agent. The defoaming agent, Foamtrol, would be added in the 20,000 gpm system being treated at a concentration of 2-5 ppm. This would be diluted by the other 20,000 gpm untreated train and the Circulating Water System prior to discharge.

DRAFT LETTER

June X, 1992

Mr. Jerry Warner
Environmental Programs Section
Baltimore Gas and Electric Company
1000 Brandon Shores Road
Baltimore, Maryland 21226

Dear Mr. Warner:

The Department has reviewed BG&E's request (letter from M. Wieland, BG&E 5/26/92) to perform testing of Clamtrol CT-1 in the Saltwater System of Calvert Cliffs Nuclear Power Plant (State Discharge Permit No. 86-DP-0187). The Department approves the Clamtrol CT-1 testing (and Foam-Trol use if it becomes necessary) in accordance with the plan of study (dated 5/22/92) subject to the following condition:

- ♦ Biomonitoring tests shall be conducted on the effluent from Outfall 001 twice, at least 30 days apart. Each test shall consist of a 24-hour acute toxicity screening test (100% effluent) using fathead minnow, and a 24-hour acute toxicity screening test using Daphnia magna. If the receiving water is brackish, a brackish water species may be substituted for those specified above. Approved brackish water species for acute testing are sheepshead minnow, silversides, grass shrimp and mysid shrimp.

Testing shall begin within one month of the start of the project. The results shall be submitted within six months of the start of the project.

If you have any questions regarding this, please call Mr. Melvin Knott at (410)631-3324.

Sincerely,

Richard Collins, Director
Hazardous and Solid Waste
Management Administration



product facts

BETZ FOAM-TROL® CT FOAM CONTROL AGENT

- Specifically designed for use in cooling tower applications.
- Biodegradability eliminates effluent problems.
- Does not degrade in storage, eliminates shelf life problems.

DESCRIPTION AND USE

BETZ Foam-Trol CT water dilutable antifoam/defoamer is specifically designed to control foam in cooling towers. It is compatible with most BETZ cooling products.

Application of BETZ Foam-Trol CT in cooling towers controls foam and does not contribute to increased microbiological activity. This product can be used whenever foam is a general nuisance or safety hazard.

FEEDING REQUIREMENTS

Proper treatment levels for BETZ Foam-Trol CT depend on many factors, such as severity of the problem and conditions particular to a given installation. This product is to be used in accordance with control procedures that BETZ establishes for a specific application.

Normal feedrates are 5 to 50 lbs/million pounds of water treated.

BETZ Foam-Trol CT may be fed neat (undiluted) directly from the shipping container, or diluted with water to a conve-

nient strength. If subjected to temperatures below 77 F, the product should be stirred thoroughly or warmed to 120 F and mixed until it is a homogeneous mixture, prior to use.

SAFETY PRECAUTIONS

A Material Safety Data Sheet containing detailed information relative to this product is available upon request.

GENERAL PROPERTIES

Appearance	light amber liquid
Density (100 F)	7.0 lbs/gal
Flash Point (closed cup)	>200 F
Separation Temperature	77 F
Viscosity (100 F)	18.0 cps

PACKAGING INFORMATION

BETZ Foam-Trol CT is blended as a liquid, and is supplied in 55-gallon (208 liters), bung-type, nonreturnable steel drums. Approximate net weight—380 pounds (173 kg) per drum. This product is available for bulk delivery in minimum tank truck or tank car quantities.

STORAGE

To ensure maximum activity, recommended in-plant storage is one year.

Betz Industrial

BETZ LABORATORIES, INC.
4636 CHEVERTON ROAD, TREVOSE, PA. 19047

PRODUCT: FOAM-TROL CT

5/22/92 AQUATIC TOXICOLOGY

DAPHNIA MAGNA

0% MORTALITY: 100 MG/L
48 HR. SCR.

BLUEGILL SUNFISH

0% MORTALITY: 1000 MG/L
48 HR. SCR.

5/22/92 MAMMALIAN TOXICOLOGY

ORAL LD50 -NO DATA

DERMAL LD50 -NO DATA

SKIN IRRITATION SCORE-NO DATA

EYE IRRITATION SCORE-NO DATA

INHALATION-NO DATA

PRODUCT	OXYGEN DEMAND (ppm)			
CONCENTRATION (ppm)		BOD	COD	TOC
1000		249	1280	110

BETZ LABORATORIES, INC.
4636 SOMERTON ROAD, TREVOSE, PA. 19053
BETZ MATERIAL SAFETY DATA SHEET
EMERGENCY TELEPHONE (HEALTH/ACCIDENT) 800-877-1940

PRODUCT : FOAM-TROL CT

(PAGE 1 OF 3)
EFFECTIVE DATE 02-16-91
PRINTED: 1-Mar-1991

REVISIONS TO SECTIONS: -/EDIT:APPENDIX

PRODUCT APPLICATION : ANTIFOAM.

-----SECTION 1-----HAZARDOUS INGREDIENTS-----

INFORMATION ON PHYSICAL HAZARDS, HEALTH HAZARDS, PEL'S AND TLV'S FOR SPECIFIC PRODUCT INGREDIENTS AS REQUIRED BY THE OSHA HAZARD COMMUNICATIONS STANDARD IS LISTED. REFER TO SECTION 4 (PAGE 2) FOR OUR ASSESSMENT OF THE POTENTIAL ACUTE AND CHRONIC HAZARDS OF THIS FORMULATION. THIS PRODUCT IS SUBJECT TO THE PENNSYLVANIA AND NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW LAW.

MINERAL OIL(MILDLY SOLVENT-REFINED OR HYDROTREATED OILS)*** CAS#64742-30-9;
POTENTIAL SKIN TUMORIGEN(BASED ON CHRONIC ANIMAL SKIN PAINTING STUDIES);
PEL: 5MG/M3; TLV: 5MG/M3.

NONHAZARD INGREDIENTS: POLYPROPYLENE GLYCOL GLYCEROL ETHER(25791-96-2) ;
OCTADECANOIC ACID(57-11-4) ; POLYETHYLENE GLYCOL MONOOLEATE(61791-00-2)

-----SECTION 2-----TYPICAL PHYSICAL DATA-----

PH: 50% SOL. (APPROX.) 6.8 ODOR: MILD
FL. POINT(DEG. F): >200 SETA(CC) SP.GR.(70F)OR DENSITY: 0.841
VAPOR PRESSURE(MMHG): <10 VAPOR DENSITY(AIR=1): >1
VISC. (CP) @ 25 F: 30 *SOLUBILITY(WATER): 0
EVAP. RATE: <1 ETHER=1 APPEARANCE: OFF WHITE TO AMBER
PHYSICAL STATE: LIQUID FREEZE POINT(DEG. F): ND

-----SECTION 3-----REACTIVITY DATA-----

STABLE.MAY REACT WITH STRONG OXIDIZERS.DO NOT CONTAMINATE.BETZ TANK
CLEAN-OUT CATEGORY 'B'

THERMAL DECOMPOSITION (DESTRUCTIVE FIRES) YIELDS ELEMENTAL OXIDES.

BETZ MATERIAL SAFETY DATA SHEET (PAGE 2 OF 3)

PRODUCT: FOAM-TROL CT

-----SECTION 4-----HEALTH HAZARD EFFECTS-----

ACUTE SKIN EFFECTS *** PRIMARY ROUTE OF EXPOSURE

SLIGHTLY IRRITATING TO THE SKIN. MAY CAUSE DERMATITIS.

ACUTE EYE EFFECTS ***

MODERATELY IRRITATING TO THE EYES

ACUTE RESPIRATORY EFFECTS ***

VAPORS, GASES, MISTS AND/OR AEROSOLS MAY CAUSE IRRITATION TO UPPER
RESPIRATORY TRACT

CHRONIC EFFECTS OF OVEREXPOSURE***

PROLONGED OR REPEATED EXPOSURES MAY CAUSE DEFATTING-TYPE DERMATITIS;

LIFETIME SKIN PAINTING STUDIES IN MICE HAVE PRODUCED SKIN TUMORS.

MEDICAL CONDITIONS AGGRAVATED ***

NOT KNOWN

SYMPTOMS OF EXPOSURE ***

PROLONGED EXPOSURE MAY CAUSE DRYING AND CRACKING OF SKIN.

-----SECTION 5-----FIRST AID INSTRUCTIONS-----

SKIN CONTACT***

REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH A LARGE QUANTITY OF
SOAP SOLUTION OR WATER FOR 15 MINUTES

EYE CONTACT***

IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES. IMMEDIATELY CONTACT A
PHYSICIAN FOR ADDITIONAL TREATMENT

INHALATION EXPOSURE***

REMOVE VICTIM FROM CONTAMINATED AREA TO FRESH AIR. APPLY APPROPRIATE
FIRST AID TREATMENT AS NECESSARY

INGESTION***

DO NOT FEED ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSIVE VICTIM
DO NOT INDUCE VOMITING. IMMEDIATE CONTACT PHYSICIAN. DILUTE CONTENTS OF
STOMACH USING 3-4 GLASSES MILK OR WATER

-----SECTION 6-----SPILL, DISPOSAL AND FIRE INSTRUCTIONS-----

SPILL INSTRUCTIONS***

VENTILATE AREA, USE SPECIFIED PROTECTIVE EQUIPMENT. CONTAIN AND ABSORB
ON ABSORBENT MATERIAL. PLACE IN WASTE DISPOSAL CONTAINER. THE WASTE
CHARACTERISTICS OF THE ABSORBED MATERIAL, OR ANY CONTAMINATED SOIL,
SHOULD BE DETERMINED IN ACCORDANCE WITH RCRA REGULATIONS.
FLUSH AREA WITH WATER. WET AREA MAY BE SLIPPERY. SPREAD
SAND/GRIT.

DISPOSAL INSTRUCTIONS***

WATER CONTAMINATED WITH THIS PRODUCT MAY BE SENT TO A SANITARY
SEWER TREATMENT FACILITY, IN ACCORDANCE WITH ANY LOCAL AGREEMENT, A
PERMITTED WASTE TREATMENT FACILITY OR DISCHARGED UNDER A NPDES PERMIT
PRODUCT (AS IS) -

INCINERATE OR BURY IN APPROVED LANDFILL

FIRE EXTINGUISHING INSTRUCTIONS***

FIREFIGHTERS SHOULD WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING
APPARATUS (FULL FACE-PIECE TYPE). PROPER FIRE EXTINGUISHING MEDIA:
DRY CHEMICAL/CO2/FOAM OR WATER. SLIPPERY CONDITION. USE SAND/GRIT

BETZ MATERIAL SAFETY DATA SHEET (PAGE 3 OF 3)

PRODUCT: FOAM-TROL CT

-----SECTION 7-----SPECIAL PROTECTIVE EQUIPMENT-----
USE PROTECTIVE EQUIPMENT IN ACCORDANCE WITH 29CFR SECTION 1910.132-134. USE
RESPIRATORS WITHIN USE LIMITATIONS OR ELSE USE SUPPLIED AIR RESPIRATORS.

VENTILATION PROTECTION***
ADEQUATE VENTILATION TO MAINTAIN AIR CONTAMINANTS BELOW EXPOSURE LIMITS
RECOMMENDED RESPIRATORY PROTECTION***

IF VENTILATION IS INADEQUATE OR SIGNIFICANT PRODUCT EXPOSURE IS LIKELY,
USE A RESPIRATOR WITH ORGANIC VAPOR CARTRIDGES.

RECOMMENDED SKIN PROTECTION***

NEOPRENE GLOVES

WASH OFF AFTER EACH USE. REPLACE AS NECESSARY

RECOMMENDED EYE PROTECTION***

SPLASH PROOF CHEMICAL GOGGLES

-----SECTION 8-----STORAGE AND HANDLING PRECAUTIONS-----

STORAGE INSTRUCTIONS***

KEEP DRUMS & PAILS CLOSED WHEN NOT IN USE.

STORE IN COOL VENTILATED LOCATION. STORE AWAY FROM OXIDIZERS

HANDLING INSTRUCTIONS***

NORMAL CHEMICAL HANDLING

THIS MSDS WAS WRITTEN TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD

APPENDIX: REGULATORY INFORMATION

THE CONTENT OF THIS APPENDIX REPRESENTS INFORMATION KNOWN TO BETZ ON THE
EFFECTIVE DATE OF THIS MSDS. THIS INFORMATION IS BELIEVED TO BE ACCURATE.
ANY CHANGES IN REGULATIONS WILL RESULT IN UPDATED VERSIONS OF THIS DOCUMENT.

...TSCA: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY

...REPORTABLE QUANTITY(RQ) FOR UNDILUTED PRODUCT:

TREAT AS OIL SPILL

...RCRA: IF THIS PRODUCT IS DISCARDED AS A WASTE, THE RCRA HAZARDOUS WASTE
IDENTIFICATION NUMBER IS: NOT APPLICABLE

...DOT HAZARD/UN#/ER GUIDE# IS: NOT APPLICABLE

...CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) MATERIALS:

THIS PRODUCT CONTAINS THESE CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE
CANCER OR REPRODUCTIVE TOXICITY: MINERAL OIL(64742-30-9)

...SARA SECTION 302 CHEMICALS: NONE

...SARA SECTION 313 CHEMICALS: NONE

...SARA SECTION 312 HAZARD CLASS: DELAYED(CHRONIC)

...MICHIGAN CRITICAL MATERIALS: NONE

NFPA/HMIS : HEALTH - 1 ; FIRE - 1 ; REACTIVITY - 0 ; SPECIAL - NONE ; PE - 3